

WHAT IS CLAIMED IS:

1. A system, comprising:

5 an application server; and

one or more of backend systems coupled to the application server;

wherein the one or more backend systems comprises a plurality data resources;

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wherein the application server comprises:

an application configured to initiate requests for connections with the
plurality of data resources;

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a plurality of data sources configured to provide connections with the
plurality of data resources; and

wherein the application server is configured to associate an identity with
each of the plurality of data sources and to use the identity to
determine whether one of the plurality of data sources provides
connections to the same data resource as another of the plurality of
data sources.

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25 2. The system as recited in claim 1, wherein in response to the application
requesting a connection from one of the plurality of data sources, a data source ID
manager is configured to ascertain the identity of the data source from which the
connection was requested and determine whether the identity matches the identity of any
other of the plurality of data sources.

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3. The system as recited in claim 2, wherein the data source ID manager is further configured to determine whether any of the data sources with matching identities previously supplied a connection to the application and, if a connection was previously supplied, to return the previously supplied connection to the application.

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4. The system as recited in claim 3, wherein if no connection from a data source with a matching identity exists, the data source is configured to forward the request to a corresponding data source to obtain a new connection.

10 5. The system as recited in claim 4, wherein the connection is a local connection.

6. The system as recited in claim 1, wherein the identity comprises values for one or more data source properties.

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7. The system as recited in claim 6, wherein the identity comprises database name, URL, and user name.

8. The system as recited in claim 1, wherein the application server is
20 configured to instantiate a data source proxy for an abstract name of a data resource used by an application; ascertain an identity for the data source; and use the identity to link the proxy to the data source.

9. The system as recited in claim 8, wherein multiple data source proxies
25 correspond to the same data source identity, wherein in response to the application requesting connections with a same data resource from multiple data source proxies, the data source proxies from which the connections were requested are configured to forward the connection requests to the data source whose identity corresponds to said proxies.

30 10. The system as recited in claim 1, wherein in response to a request to instantiate a data source corresponding to an abstract name, the application server is

configured to determine an identity for the proposed data source, determine whether any existing data source has a matching identity, instantiate the proposed data source only if no existing data source with matching identity is found.

- 5 11. The system as recited in claim 1, wherein the application server further comprises a transaction manager;

 wherein in response to a request to commit a transaction the transaction manager
 is configured to identify a number of data resources participating in the
10 transaction according to connections supplied for unique data source
 identities;

 wherein if the number of data resources participating in the transaction is two or
 more the transaction manager is configured to commit the transaction
15 utilizing a two-phase commit protocol; and

 wherein if only one data resource participating in the transaction the transaction
 manager is configured to commit the transaction utilizing a one-phase
 commit optimization.

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12. A method, comprising:

 receiving notification of a request for a connection;

25 ascertaining an identity of a data source associated with the request;

 comparing said identity with the identities of data sources with existing
 connections;

30 providing an existing connection if an identity match is found with one of the data
 sources with existing connections; and

providing a new connection if no identity match is found.

13. The method as recited in claim 12, wherein the identity comprises values
5 for one or more data source property.

14. The method as recited in claim 13, wherein the identity comprises
database name, URL, and user name.

10 15. The method of claim 12, further comprising:

creating one or more data source proxies, wherein multiple data source proxies
correspond to the same data source identity;

15 each data source proxy associated with the same data source identity forwarding
connection requests to the same data source whose identity corresponds to
said proxies.

16. The method of claim 12, further comprising:
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in response to a request to commit a transaction, identifying the number of data
resources participating in the transaction according to the number of
unique data source identities used to establish data resource connections;
and

25 if the number of data resources participating in the transaction is two or more,
committing the transaction utilizing a two-phase commit protocol, and if
only one data resource is participating in the transaction, committing the
transaction utilizing a one-phase commit optimization.

30 17. A method, comprising:

receiving a request for a connection with a participant in a transaction;

ascertaining an identity of a local data source associated with the request;

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attempting to identify a data source that is already participating in the transaction
whose identity matches the identity of the data source associated with the
request;

10 sharing an existing connection associated with the identity if a data source with a
matching identity is found; and

providing a new connection if no data source with a matching identity is found.

15 18. A computer accessible medium comprising program instructions, wherein
the program instructions are computer-executable to:

receive notification of a request for a connection;

20 ascertain an identity of a data source associated with the request;

determine whether the identity of a data source from among a plurality of local
and global data source having an existing connection matches the identity
of a data source associated with the request;

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provide the existing connection if an identity match is found; and

provide a new connection if no identity match is found.

30 19. The computer accessible medium as recited in claim 18, wherein the
identity comprises values for one or more data source properties.

20. The computer accessible medium as recited in claim 19, wherein the identity comprises database name, URL, and user name.

5 21. The computer accessible medium as recited in claim 18, wherein the program instructions are further computer-executable to:

create one or more data source proxies, wherein multiple data source proxies correspond to the same data source identity;

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wherein each data source proxy associated with the same data source identity forwards connection requests to the same data source whose identity corresponds to said proxies.

15 22. The computer accessible medium as recited in claim 18, wherein the program instructions are further computer-executable to:

in response to a request to commit a transaction, identify the number of data resources participating in the transaction according to the number of
20 unique data source identities used to establish data resource connections;
and

if the number of data resources participating in the transaction is two or more,
commit the transaction utilizing a two-phase commit protocol, and if only
25 one data resource is participating in the transaction, commit the
transaction utilizing a one-phase commit optimization.

23. A computer accessible medium comprising program instructions, wherein the program instructions are computer-executable to:

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receive a request for a connection with a participant in a transaction;

ascertain an identity of a local data source associated with the request;

5 attempt to identify a data source that is already participating in the transaction
whose identity matches the identity of the data source associated with the
request;

share an existing connection associated with the identity if a data source with
matching identity is found; and

10 provide a new connection if no data source with matching identity is found.